

**To:** Stanislaus, Mathy[Stanislaus.Mathy@epa.gov]  
**Cc:** Breen, Barry[Breen.Barry@epa.gov]; Natarajan, Nitin[Natarajan.Nitin@epa.gov]; Breen, Barry[Breen.Barry@epa.gov]; Tulis, Dana[Tulis.Dana@epa.gov]; Woolford, James[Woolford.James@epa.gov]  
**From:** Cheatham, Reggie  
**Sent:** Tue 8/11/2015 8:24:26 PM  
**Subject:** RE: Approach to Sediments at Golden Mine  
Sediment Monitoring post Gold King Mine Blowout v2.docx

Revised Statement below:

Revised Draft:

### **Approach for Sediment Monitoring in the Aftermath of the 2015 Gold King Mine Blowout**

The EPA Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (EPA-540-R-05-012, OSWER 9355.0-85, 2005) was developed to provide technical and policy guidance for project managers and management teams making remedy decisions for contaminated sediment sites. Although this guidance is predominantly used in the Superfund remedial and removal programs, it provides relevant information applicable to the development of an approach for sediment monitoring in the aftermath of the emergency response associated with the Gold King Mine blowout. The guidance outlines several key questions that should be considered for a sediment monitoring program that focus on its purpose, sampling and analysis details, temporal and spatial scales for the sampling, development of indicators for action, if warranted, or termination of the program, and communication of the results with the public. A scientifically-based approach for future monitoring—that is monitoring that is done after the emergency response transitions to environmental monitoring—will be developed to track ecosystem status or recovery if there have been adverse impacts. The monitoring plan will identify decisions that are to be made and what data is necessary to make these decisions. The plan will denote several locations for sampling sediments and water throughout the impacted river system, including the Animas and San Juan Rivers. EPA will use the available historical pre-blowout data for sediment and water to serve as a baseline or reference point to address the question on whether any impacts from the blowout have passed. The monitoring plan will be designed to address this question and other decisions important to EPA, states, tribes and the public. The plan will be initially implemented over several weeks and will be updated based on input from stakeholders. The comparison of the monitoring results to pre-incident data will be a critical determinant for decision-making.

Reggie Cheatham, Acting Director

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**From:** Stanislaus, Mathy

**Sent:** Tuesday, August 11, 2015 11:01 AM

**To:** Cheatham, Reggie

**Cc:** Breen, Barry; Natarajan, Nitin; Breen, Barry; Tulis, Dana; Woolford, James

**Subject:** RE: Approach to Sediments at Golden Mine

This is fine for internally informing our approach but this needs to be translated for public consumption – how investigation will be conducted, over what period of time, what actions we would be taken building on the highlighted text

**From:** Cheatham, Reggie

**Sent:** Tuesday, August 11, 2015 10:22 AM

**To:** Stanislaus, Mathy

**Cc:** Breen, Barry; Natarajan, Nitin; Breen, Barry; Tulis, Dana; Woolford, James

**Subject:** Approach to Sediments at Golden Mine

Mathy

With tremendous coordination with OSRTI, we think this is close to what you are looking for:

### **Approach for Sediment Monitoring in the Aftermath of the 2015 Gold King Mine Blowout**

The EPA *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites* (EPA-540-R-05-012, OSWER 9355.0-85, 2005) was developed to provide technical and policy guidance for project managers and management teams making remedy decisions for contaminated

sediment sites. Although this guidance is predominantly used in the Superfund remedial program, it provides relevant information applicable to the development of an approach for sediment monitoring in the aftermath of the emergency response associated with the Gold King Mine blowout. The guidance outlines several key questions that should be considered for a sediment monitoring program that focus on its purpose, sampling and analysis details, temporal and spatial domains for the sampling, trigger levels for action or termination of the program, and communication of the results with the public. EPA will build upon previous data (i.e., baseline conditions) and existing sampling efforts in the impacted river system (Animas and San Juan Rivers) to develop a scientifically-based adaptive approach for future monitoring of the ecosystem status or recovery. The monitoring plan will describe the sampling of sediment and water throughout the system and may include focused biological sampling efforts, where appropriate. The comparison of the monitoring results to pre-incident data will be a critical determinant for decision making.

Of note: "...adaptive approach for future monitoring." This is meant to describe that all ongoing and planned sampling will be modified as necessary based on empirical results, comparison with indicators/trigger levels, regulatory requirements, and new knowledge that is gained from independent sources. This is a similar approach that was described for the Deepwater Horizon long term monitoring plan we developed under the Operational Science Advisory Team in the UAC-New Orleans.

Thanks

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